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ABSTRACT

Academic delay of gratification refers to students' willingness to postpone immediately available opportunities to satisfy impulses in favor of academic goals that are temporally remote but ostensibly more valuable. The purpose of the present investigation was to develop and validate the Academic Delay of Gratification Scale (ADOGS) as a new instrument to assess college students' academic delay of gratification. In Study 1 (N=180) and Study 2 (N=194), ADOGS was developed and its psychometric properties were examined. Study 3 (N=389) tested the hypotheses that academic delay of gratification would be related to students' motivational tendencies and use of learning strategies. Results indicate that greater preference for academic delay of gratification correlates positively with students' motivation for learning, the utilization of resource management, and with cognitive and metacognitive learning strategies. The implications of this study for learners and educators are discussed. The instrument is attached. (Contains eight references.) (Author/SLD)

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Academic Delay of Gratification Scale

A New Measurement for Delay of Gratification

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Abstract

Academic delay of gratification (ADOG) refers to students' willingness to postpone immediately available opportunities to satisfy impulses in favor of academic goals that are temporally remote but obstensibly more valuable. The purpose of the present investigation was to develop and validate the Academic Delay of Gratification Scale (ADOGS), as a new instrument, to assess college students' academic delay of gratification. In Study 1 (N = 180) and Study 2 (N = 194) ADOGS was developed and its psychometric properties were examined. Study 3 (N = 369) tested the hypotheses that academic delay of gratification would be related to students' motivational tendencies and use of learning strategies. Results indicated that greater preference for academic delay of gratification correlated positively with students' motivation for learning, the utilization of resource management, as well as with cognitive, and metacognitive learning strategies. The implications of this study for learners and educators are discussed.

A New Measurement of Delay of Gratification

According to Mischel, delay of gratification represents "people's attempts to delay immediate smaller gratification for the sake of more desirable but distant goals" (Mischel, 1981, p. 244). Delay of gratification has been associated with academic success, achievement motivation, and social responsibility. For instance, Mischel, Shoda, and Peake (1988) found, for example, that children who opted to delay gratification as preschoolers, were more socially responsible as adolescents, had higher achievement during high school, were more verbally fluent, and academically and socially competent than were children who preferred a short delay of gratification. Mischel's basic assessment paradigm involved offering children the choice between an immediately smaller reward, such as a small piece of candy, and a larger reward, such as a larger piece of candy if they were willing to wait (Mischel, 1981).

Questionnaires have been used to assess delay of gratification in adults. For example, Ward, Perry, Woltz, & Doolin (1989) studied delay of gratification in African American university student leaders. In their questionnaire, students indicated their preference for one of two alternatives. An example is, "Go to a favorite concert and risk getting a bad grade, or stay home and study to get a better grade." They found that preferences for the delayed alternatives were related to students' sociopolitical views and consumer preferences but not to their career choices or academic decisions. A different format was used in Ray and Najman's Deferment of Gratification Questionnaire (DGQ: Ray and Najman's, 1986), in which persons were asked to agree or disagree with descriptors, such as "Would you describe yourself as often being too impulsive for your own good?" Using this scale, Witt (1990) found that delay was related with satisfaction with the university, social responsibility, and locus of control.

The present study examined delay of gratification in academic contexts that involved the development and modification of existing questionnaires. Whereas previous scales assessed delay of gratification in a global manner, the approach used here involved narrowing the rating target to specific academic situations, such as individual courses. The scale developed here, called the Academic Delay of Gratification Scale, or ADOGS, used items in which the academic alternative always referred to the course in which the student was enrolled, rather than classes in general. For example, students rated their preference for an immediate alternative, such as "going to a favorite concert, play, or sporting event even though it may mean getting a lower grade on an exam in this class to be taken the next day," versus "staying home and studying to increase your chances of getting a higher grade."

We first conducted two scale construction studies that examined the psychometric properties of the ADOGS. In the third study we examined the relationship between academic delay of gratification and students' course-specific motivational tendencies and use of learning strategies known to facilitate academic success. It was expected that more academically motivated students would be those who are more willing to forego immediately available but less valuable outcomes and

opt for those more valuable but more distant.

There is also reason to expect a relationship between delay preferences and students' use of learning strategies. A review of the literature suggests that a tendency to delay gratification is positively correlated with people's use of cognitive skills. Mischel (1990) argues that "what people do encompasses not just motor acts, but what they do cognitively, including the constructs they generate, the processes they plan and pursue, and the self-regulatory efforts they attempt in the light of long-term goals" (117). Further, Mischel & Shoda (1995) propose that strategies such as rehearsal "appear to be promising routes that can enhance self-regulation and purposeful self-directed change in the pursuit of difficult goal" (261). In other words, delay of gratification represents a strategic approach that is part of the self-regulatory process by which learners accomplish academic tasks. As a consequence, the tendency to delay gratification should be related to the use of other self-regulatory learning strategies. Despite their hypothesized association, there has been no comprehensive study of delay of gratification and learning strategy use.

Scale Development Studies

In an adaptation of the scale used by Ward and her associated (1989), the initial version of the ADOGS included 16 scale items that presented a choice between two alternatives, according to the following criteria: (a) one immediately available and the other obtained after a delay interval, (b) each alternative indicated an academic outcome if that alternative was selected, (c) the more delayed academic outcome was more valuable than the immediately obtained outcome. Rather than a binary forced choice, responses were obtained on a four category ordered scale as follows: Definitely choose A, Probably choose A, Probably choose B, and Definitely choose B. Items included were those that involved only course-related content, such as the one cited earlier, and a subset that was related to future employment, for example, dropping the course to take a job or completing the requirements for the course even if it meant not having enough money for things that the student liked.

An Overview of Study 1 and Study 2

Participants in Study 1 were 180 volunteer undergraduates enrolled in introductory courses at a midwestern university during the Spring of 1995. Administration took place in the students' regular classroom and lasted approximately eight minutes.

The results of Study 1 suggested that version one of the ADOGS had acceptable internal consistency with a Cronbach alpha of .72. Despite evidence of internal consistency, a principle components factor analysis yielded five factors that exceeded the root one criterion, suggesting scale multi-dimensionality. An examination of factor loadings following a Varimax rotation indicated a clear distinction between items that did and those that did not refer to employment. Because of evidence that employment-

related delay represents a separate dimension, these six items were deleted from the scale, which increased the internal consistency of the remaining 10 items to a Cronbach alpha of .76. The revised scale was presented to another sample consisting of 194 undergraduates enrolled in introductory courses during the Summer term of 1995 at the same university. Again, acceptable internal consistency reliability was obtained, with an almost identical Cronbach alpha of .77.

Study 3

ADOG and Motivation for Learning and Use of Learning Strategies

With a reliable measure of academic delay of gratification the third study examined the relationship between ADOG and student's academic motivation and use of learning strategies. It was hypothesized that delay of gratification would be positively related to all of the students' motivation for learning use of learning strategies, with the exception of anxiety, in which case a negative relationship was predicted.

Method

Participants

The ADOGS and the MSLQ were administered to 369 college students in introductory psychology courses at the same university. The questionnaires were administered during regular classroom sessions. In addition students were asked for their expected final grade in the course. Actual final grades were obtained from their instructors after the course had been completed.

Measurements

Students were given the 10 item revised version of the ADOGS. Individual summary scores on the ADOG were obtained by summing the degree of preference for the delayed alternative over the scale. Students motivation for learning and use of learning strategies were determined using the Motivated Strategies for Learning Questionnaire (MSLQ: Pintrich, Smith, García, & McKeachie, 1993). Using a Likert-type response format with anchors of "not at all true of me" to "very true of me," the MSLQ consists of 81 items. Motivation subscales include the value of the course, degree of intrinsic and extrinsic interest in the course, self-efficacy for success in the course, control beliefs about effort-outcome contingencies, and negative affect (test anxiety). Cognitive strategies were rehearsal, organization, elaboration, and critical thinking. A single scale measured metacognition, which includes planning, monitoring and regulating. Resource management scales were students' regulation of their effort, organization of their time and study areas, use of peer learning, and the seeking of help when necessary. Demographic information, such as age, ethnic background, class level, and gender of participants were also gathered.

Results

Again, the ADOGS had acceptable internal consistency reliability, given a Cronbach alpha of .70. In addition, Pearson correlation coefficients clearly show that ADOG scores were significantly related to most of the subscales of the MSLQ in the predicted direction. Specifically, the ADOG was significantly related to intrinsic motivation,($r = .32$, $p < .01$; extrinsic motivation, $r = .35$, $p < .01$, task value, $r = .30$, $p < .01$; and self-efficacy, $r = .20$, $p < .01$. However, contrary to prediction, control beliefs and test anxiety were not significantly related to academic delay of gratification.

Among the learning strategies, academic delay of gratification was related to rehearsal ($r = .42$, $p < .01$), elaboration ($r = .38$, $p = .01$), orgarization ($r = .40$, $p < .01$), critical thinking ($r = .18$, $p = .01$), and metacognitive self regulation ($r = .49$, $p = .01$). ADOG scores were also significantly related to students' management of their time and study environment ($r = .62$, $p = .01$), effort regulation ($r = .58$, $p = .01$), and help seeking ($r = .14$, $p = .01$), but not to their use of peer learning.

Finally, there is evidence that delay was related to student success in that ADOG scores were significantly correlated with students' expected ($r = .18$, $p < .01$) and obtained final grade ($r = .13$, $p < .01$).

Conclusion and Further Questions

Three conclusions are suggested by these studies. First, the ADOGS represents a reliable measure of academic delay of gratification. Second, construct validity is indicated by the relationship between the ADOGS and critical components of students' academic motivation and use of learning strategies. Third, that academic delay of gratification is associated with an extensive network of student characteristics known to facilitate student academic achievement also indicates that, consistent with Mischel and others, delay of gratification represents an important way in which individuals differ.

Having demonstrated this extensive array of associations, however, several questions remain. First, it would be important to determine the stability of academic delay preference over time and situations. In an academic setting this means administering the ADOGS to individuals more than once in a given course and in different courses. Second, we need to determine the relationship between academic delay of gratification, as measured by the ADOGS, and closely related constructs, such as impulsivity and self-control. Third, we may ask whether there are different delay preferences as a function of gender, ethnicity, and socio-economic class. Finally, there needs to be greater specification of the conceptual status of academic delay of gratification. It is possible, for example, that delay of gratification should be considered a form of resource management, another way in which learners employ self-regulation in the pursuit of academic success. Additional work using the ADOGS will help determine the answers to these and other questions about delay and its functioning.

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Final Version of the

Academic Delay of Gratification Scale

— ADGS —

Mean	*SD*	Scale Items
2.42 *2.84*	.85 *1.00*	1. A. Go to a favorite concert, play, or sporting event and study less for this course even though it may mean getting a lower grade on an exam you will take tomorrow, **or** B. Stay home and study to increase your chances of getting a higher grade.
2.30 *2.70*	.93 *1.00*	2. A. Study a little every day for an exam in this course and spend less time with your friends, **or** B. Spend more time with your friends and cram just before the test.
3.05 *3.27*	.90 *.99*	3. A. Miss several classes to accept an invitation for a very interesting trip, **or** B. Delay going on the trip until this course is over.
3.15 *3.34*	.93 *.88*	4. A. Go to a party the night before a test in this course and study only if you have time, **or** B. Study first and party only if you have time.
3.21 *3.23*	.88 *.95*	5. A. Spend most of your time studying just the interesting material in this course even though it may mean not doing so well, **or** B. Study all the material that is assigned to increase your chances of doing well in the course.
3.21 *3.36*	.90 *.86*	6. A. Skip this class when the weather is nice and try to get the notes from somebody later, **or** B. Attend class to make certain that you do not miss something even though the weather is nice outside.
2.71 *2.93*	.94 *.99*	7. A. Stay in the library to make certain that you finish an assignment in this course that is due the next day, **or** B. Leave to have fun with your friends and try to complete it when you get home later that night.
3.24 *3.29*	.81 *.84*	8. A. Study for this course in a place with a lot of pleasant distractions even though it may mean not learning the material, **or** B. Study in a place where there are no distractions to increase the likelihood that you will learn the material.
2.43 *2.68*	.90 *1.00*	9. A. Leave right after this class to do something you like even though it means possibly not understanding that material for the exam, **or** B. Stay after class to ask your instructor to clarify some material for an exam that you do not understand.
2.65 *2.51*	.96 *1.00*	10. A. Select now an instructor for this course who is fun even though he/she does not do a good job covering the course material, **or** B. Wait for an instructor for this course who is not much fun but who does a good job covering the course material.

Note: Values are based on a 1 to 4 coding of responses, with higher values representing greater preference for the delayed alternative. Numbers in italics are data from Study 2.

— Response scale —

__Definitely choose A __Probably choose A __Probably choose B __Definitely choose B

Correlations Between Academic Delay of Gratification (ADGS) and Students' Motivational Tendencies and Use of Learning Strategies (MSLQ)

MSLQ Subscale	ADGS
Motivation	
Intrinsic Goal Orientation	.32***
Extrinsic Goal Orientation	.35***
Task Value	.30***
Control of Learning Beliefs	.03
Self-Efficacy	.20***
Affect — Test Anxiety	.03
Learning Strategies	
Rehearsal	.42***
Elaboration	.38***
Organization	.40***
Critical Thinking	.18**
Metacognitive Self-Regulation	.49***
Time and Study Environment	.62***
Effort Regulation	.58***
Peer Learning	.09
Help Seeking	.14**

*p < .05 **p < .01 ***p < .001